PERAC Special Investment Report

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Portfolio Rebalancing

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Most investors have realized by now that there are no easy solutions to coping with a brutal bear market. Bonds and real estate have both achieved three years of positive returns during the 2000-2002 correction in the stock market, but with stocks still having a dominant position in most institutional portfolios, returns from these other asset classes have not been sufficient to help pension funds meet their actuarial objectives or even to achieve positive overall portfolio returns. Furthermore, after their strong performance over the past few years, both bonds and real estate may well have already seen their best returns for the current cycle.

However, there is one strategy that investors may employ in hopes of improving their long-term performance, and that is rebalancing. This is the process of realigning an investment portfolio back to its target asset allocation range as the allocations change over time due to performance. Without rebalancing, portfolios deviate from their original asset allocation targets by becoming more concentrated in the best performing asset classes. A disciplined rebalancing strategy is meant to control risk and possibly enhance performance by taking advantage of the cyclical behavior of capital markets and by eliminating any market timing calls. With rebalancing, investors would have, at the minimum, limited the volatility of their returns over the recent full market cycle and, depending on the strategy followed, might have also enhanced their performance over this extended period.

Transaction costs, including the market impact that may accrue from large funds realigning their portfolios, may offset some of the benefits from rebalancing, but most studies have shown that a disciplined rebalancing program does reduce risk and may improve performance over time. Investors who may have reduced their holdings of equities, particularly large cap growth, too early in the 1990s or who began to add to equity holdings in the very early stages of the current bear market may have had and still do have some misgivings, but most research shows that, over a full market cycle, rebalancing typically does add value.

Demonstrating the rationale for rebalancing, a portfolio consisting of 60% US large cap stocks and 40% government bonds at the start of 2002 would have had a 50%/50% split by year-end after last year's dramatically divergent market results (S&P 500 down 22%, long Treasury bonds up 18%). Similarly, a portfolio with a 60%/40% stock/bond mix in April 2000, just after the peak in US stock prices, would have had a 40%/60% portfolio by the end of January 2003 if no rebalancing was done.

In an further illustrative example by Ibbotson Associates of how market action affects asset allocation, a portfolio of 60% US large cap stocks, 30% government bonds, and 10% cash in January 1995 would have seen its equity allocation rise to 78% and bonds would have fallen to 17% of the portfolio by the end of 1999 as a result of the historic bull market in stocks. As the bear market ensued, those allocations adjusted down to 69% equity and 24% bonds by the end of 2001 and we calculate that they would have been back to about 60% stocks (the original allocation) and 32% bonds by the end of 2002.

In the absence of rebalancing, the above portfolio would have seen its equity allocation rise to a level (78%) that was almost certainly well above its targeted range, giving the portfolio a much higher risk level (since equities historically have twice the volatility of bonds) than originally targeted, at a time when the equity market was within weeks of finally peaking. Over the next three years of falling stock markets, the portfolio would have borne the full brunt of that oversized equity exposure. In the late 1990s, it would not have been easy to pare down winners in the stock portfolio and to put the money into asset classes that were then relatively unappealing at the time, but by sticking to the fund's targeted asset allocation and risk levels, the portfolio's performance would have likely benefited over time.

The concept of rebalancing—periodically adjusting a portfolio back to within the original asset allocation targets and thereby managing risk by maintaining effective diversification—is basic yet deceptively simple since developing and implementing a sound rebalancing program is very difficult. First of all, buying low and selling high is an admirable objective but selling "winners" in favor of "losers", with the fear of perhaps leaving additional future profits on the table, can be emotionally very difficult. Most importantly, however, rebalancing is not easy since there are many different ways to accomplish it.

First of all, rebalancing can be *periodic*, where the portfolio is rebalanced at the end of a particular period (e.g., quarterly). There is also *threshold* rebalancing, where the portfolio is rebalanced back to its target mix whenever certain asset classes reach the outer boundaries of their rebalancing range. For example, a portfolio with a 60%-40% equity-bond mix and a 3% rebalancing band would move back to 60% equities once that sector moved above 63% or below 57%. An alternative method, sometimes called *rebalancing to range*, would only adjust the portfolio back to the 63%-57% band. There are also ways to combine periodic and target range rebalancing.

There are no widely accepted principles either for setting asset allocation bands or for devising rebalancing rules. Factors affecting these decisions would include the risk of individual asset classes, the correlations among them, and transaction costs. In markets where volatility is low (like in the mid 1990s), wider bands would have helped a portfolio achieve greater returns without much additional risk. In markets like those over the past few years that are very choppy, having narrower bands may be more effective in achieving successful rebalancing.

Target bands for rebalancing are typically symmetrical, but since the stock market does trend higher over time and bull markets usually last longer than bear markets, some plans use *asymmetrical* rebalancing in order to allow a greater upside drift than downside drift. For example, a portfolio with a target of 35-45% domestic equity and a rebalancing range of 6% up and 3% down would allow stocks to go as high as 51% and as low as 32% before rebalancing is initiated. Such a strategy would allow investors to capture more of a bull market.

Rebalancing is basically a market-driven strategy, but other circumstances could also lead to a rebalancing. For a pension fund, revised actuarial assumptions are one of the most likely triggers for asset allocation rebalancing. Funding levels can also determine changes in asset allocation. Systems with a large unfunded liability and a long funding period might justify a portfolio dominated by equities while those that are at or close to full funding might adopt a more conservative income-oriented strategy.

As noted, transaction costs can be a factor in determining the success of a rebalancing program. However, rather than having to simultaneously execute programs of both buying and selling, retirement systems and similar investors have the option to minimize transaction costs by directing cash flows into the underperforming asset classes and focusing withdrawals out of the outperforming classes.

Rebalancing is a disciplined way to trim back over-valued asset classes while adding to undervalued ones. For plans sponsors, rebalancing takes the emotion out of making portfolio adjustments that may seem difficult at the time. It is a very viable and common sense alternative to market timing; since few if any investors are capable of correctly calling the exact tops and bottoms of markets, rebalancing allows portfolios to take advantage of changing market valuations in an incremental, reasonable manner. However, for those plan sponsors that do have strong conviction on the projected performance of different asset classes, *tactical rebalancing* can be used to incorporate those views by modifying or overriding the changes called for by the conventional rebalancing rules.

Rebalancing should be seen as a way to maintain portfolio risk within targeted ranges. It is not guaranteed to produce superior absolute returns over a buy-and-hold strategy over every possible time period, but it should provide a portfolio superior *risk-adjusted* returns. The principal justification for rebalancing is that asset classes do have an unmistakable and inevitable tendency to revert to the mean in terms of performance over an extended period. However, it is important to remember that they do not always do so according to our expected timetables. As seen in the late 1990s, the development of market bubbles can throw all the rules out the window. In such cases, aberrations last so much longer than expected that many investors begin to think that a new paradigm is at hand. But, for truly experienced investors, the question is not if but when such bubbles will burst. As last seen beginning in March 2000, when the correction finally happens, those who have rebalanced will finally and decisively find vindication.

As seen in the Ibbotson example presented above, if a portfolio doesn't initiate its own rebalancing, the market will eventually do so on its own. By taking money out of the stock market prior to its top and its ensuing major decline and by adding to out-of-favor asset classes that will eventually do very well, it is intuitive to see how rebalancing can make a difference by smoothing returns and possibly enhancing returns over time.

To the extent that it involves reallocating money among existing investment managers, PERAC approval is not required for a retirement board to implement a rebalancing strategy. Along with numerous public and private pension funds nationwide, many public retirement systems across the Commonwealth have already been rebalancing their portfolios according to the disciplines of their programs. For those who may not have done so to this date, it is certainly not too late to consider rebalancing. At this time, stocks remain mired in worries over geopolitical and economic concerns, but after underperforming bonds by more than 70% over the past three years, stocks are as attractively valued relative to bonds as they've been in several years. For those systems where equity holdings have fallen through the lower end of their target range, adding to equity holdings may prove beneficial in time.

The PERAC Investment Unit would be pleased to discuss rebalancing in a more detailed and system specific manner with any interested retirement board.

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